2007 ANNUAL REPORT
OF
MONTANA'S NONPOINT SOURCE MANAGEMENT PROGRAM

by
Montana Department of Environmental Quality
Planning, Prevention, and Assistance Division
Water Quality Planning Bureau

MONTANA VISION STATEMENT: Water quality will be restored and protected through the implementation of voluntary best management practices identified in science based, community supported watershed plans.

NPS HIGHLIGHTS OF THE YEAR 2007

The update of Montana's Nonpoint Source Management Plan was completed and received EPA approval in July 2007.

DEQ provided $625,410 to local groups for TMDL planning assistance grants.

DEQ awarded $674,590 in nonpoint source grants funding 15 watershed restoration, one groundwater, and four education and outreach projects. In-kind match for these projects amounted to $974,603, including $179,930 in federal funding.

New staff and positions were assigned to strategic roles for developing tools needed to meet priority goals.

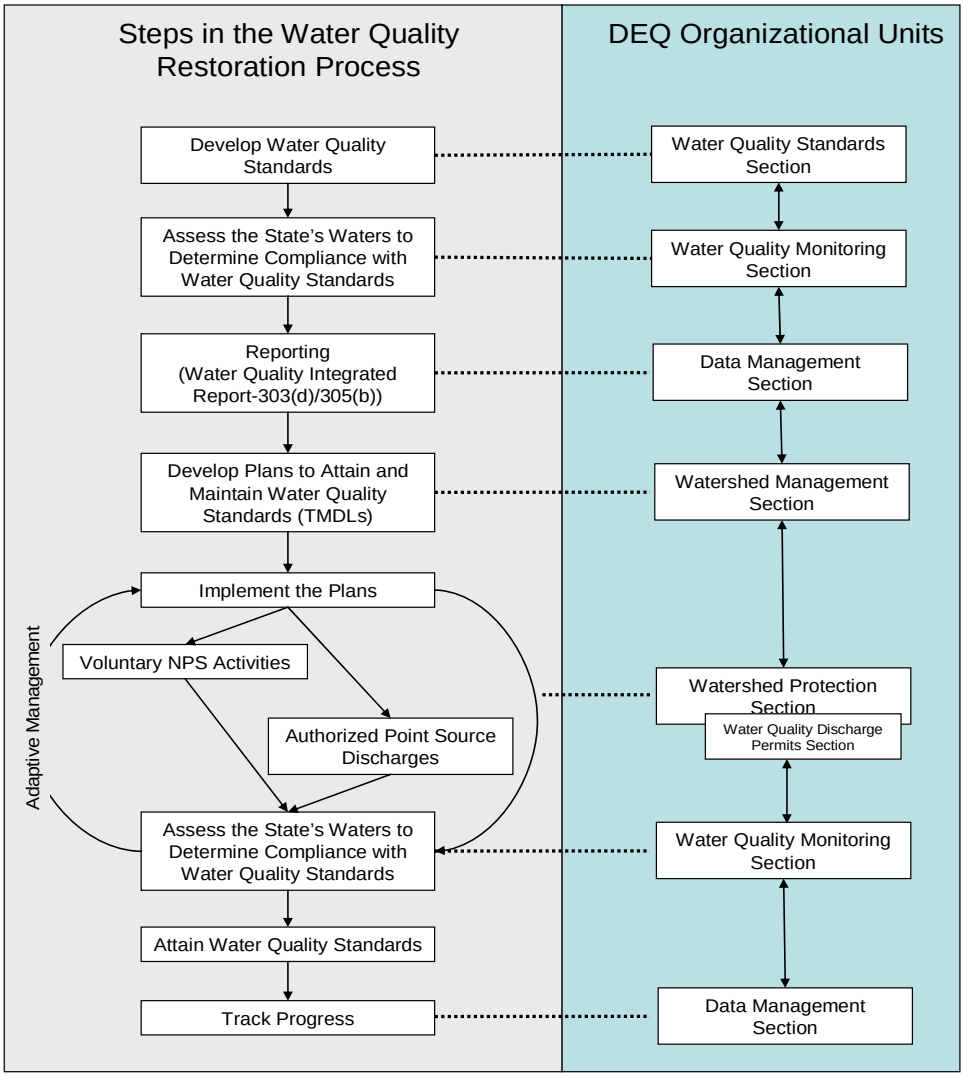
DEQ's Water Quality Monitoring Section continued to expand the monitoring network of streams, lakes, and reference sites.

The importance of DEQ's Quality Assurance and Quality Control program was emphasized by creating a Quality Assurance Section in 2007. An additional position was added for coordinating Quality Control for water quality across Montana.

The Water Quality Planning Bureau closed out 44 nonpoint source planning and project grants. Montana has a balance of ~22% remaining of unexpended 319 funds awarded, one of the lowest balances in the nation.

PART 1. DEQ WATER QUALITY PLANNING BUREAU OVERVIEW

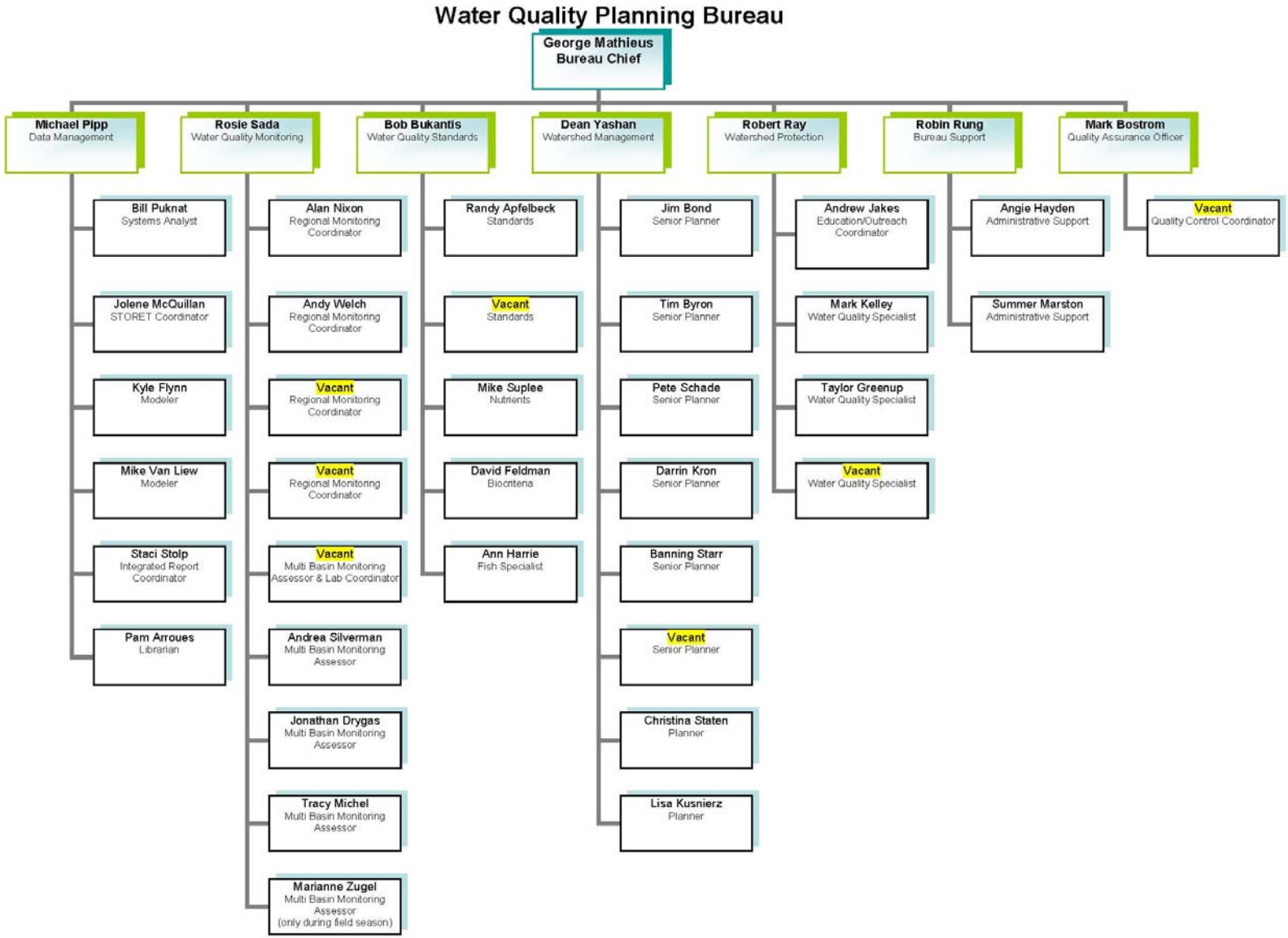
Section 319 of the Clean Water Act requires states to (1) assess water bodies for nonpoint source (NPS) impacts, (2) develop nonpoint source management programs, (3) implement those programs, and (4) report on nonpoint source program implementation to the public and to the U.S. Environmental Protection Agency (EPA). This report is the Montana Department of Environmental Quality's 2007 Nonpoint Source Annual Progress Report.



The Water Quality Planning Bureau operates under one common objective which is to attain and maintain water quality standards. This is accomplished through an integrated approach involving development and implementation of water quality plans and TMDLs. To simplistically summarize Bureau's organization (see figure above), the Standards

Section develops water quality standards and guidance for interpretation of the standards; the Monitoring Section monitors and assesses State waters; the Data Management Section reports the assessment findings; the Watershed Management Section develops TMDL plans for waters not meeting standards; and the Watershed Protection Section supports implementation of the plans. Additionally, the water quality standards developed by the Standards Section are used throughout the Agency, such as in the MPDES program, to ensure clean water protection by all permitted point-source dischargers.

The following Figure displays new positions and staff and how they fit into the overall bureau.



PART 2. WATER QUALITY PLANNING BUREAU UPDATE

2.1 Water Quality Standards Section

2.1.1 Nutrients

DEQ continued to make progress in the development of numeric nutrient water quality standards. Highlights for 2007 included:

- Completed collection of reference data to fill data gaps. The addition of this data to our database provides us a more robust and complete data set from which to develop more accurate ecoregionally-based criteria.
- Collected field data in the lower Yellowstone River to support the development of a model intended to simulate nutrient effects on dissolved oxygen and nuisance algae growth in this large river reach. Our goal is to provide a technical basis for nutrient standards in Montana's large rivers.
- Continued development of implementation procedures for numeric nutrient standards for wadeable streams taking into account the economics of waste treatment. We have contracted for supporting technical analysis and are in the initial stages of forming a stakeholder advisory group that will work to develop affordability criteria.

2.1.2 Biocriteria

Periphyton:
DEQ developed periphyton metrics that specifically assess nutrient, sediment, and metals impacts to wadeable streams in 2005. In 2007, further analysis showed that greater spatial stratification is needed to apply the metrics accurately. That is, the initial stratification in 2005 (mountainous vs. prairie regions of the state) was too coarse. As a result, DEQ currently has functioning diatom metrics only in the Middle Rockies Level III

ecoregion for sediment. Additional data collection needed to develop metrics for the other Level III ecoregions began in summer 2007 and will continue through 2008.

2.1.3 Other Water Quality Standards Updates

DEQ initiated rulemaking to clean up and update Montana's water quality standards, including adopting aquatic life standards for Nonophenol and Diazinon and human health standards for 8 pesticides and 15 pesticide metabolites.

2.2 Water Quality Monitoring Section

2.2.1 Standards Development Support

The main priorities of the WQMS during this year were to support the Standards Section nutrient criteria and periphyton metrics development, and 303(d) Listings. Site selection for these projects used a targeted design. A total of 195 waterbodies were sampled across the state.

2.2.2 Reference Site Monitoring

The development of reference site data has been on-going since 2000. The objectives of this project are to establish a network of reference sites, define reference conditions for use in water quality assessments, help in the establishment of TMDL endpoints, and aid in the development of water quality standards. A total of 100 sites (both established and candidate sites) have been assessed three times per year across Montana. This project uses a targeted design to improve DEQ's knowledge of areas lacking reference sites and areas within BLM lands. The WQPB works cooperatively with the University of Montana (UM) to conduct the field sampling. In 2007, a total of 15 sites in southeastern MT were sampled three times during the summer. Protocols used in the reference project are described in the Quality Assurance Plan Reference Addendum (DEQ 2005).

In 2005, a screening process was developed that uses both watershed and site-specific data to assess the overall quality of the reference site. The screening process assesses the relative influence of site-specific impacts (e.g., heavily grazed riparian area) and watershed-level impacts (e.g., extensive timber harvest upstream of the site) on the integrity of the site. Sites that pass through the screening process are considered final reference sites. The process and the reference site descriptions are described in detail in Suplee et al. 2005.

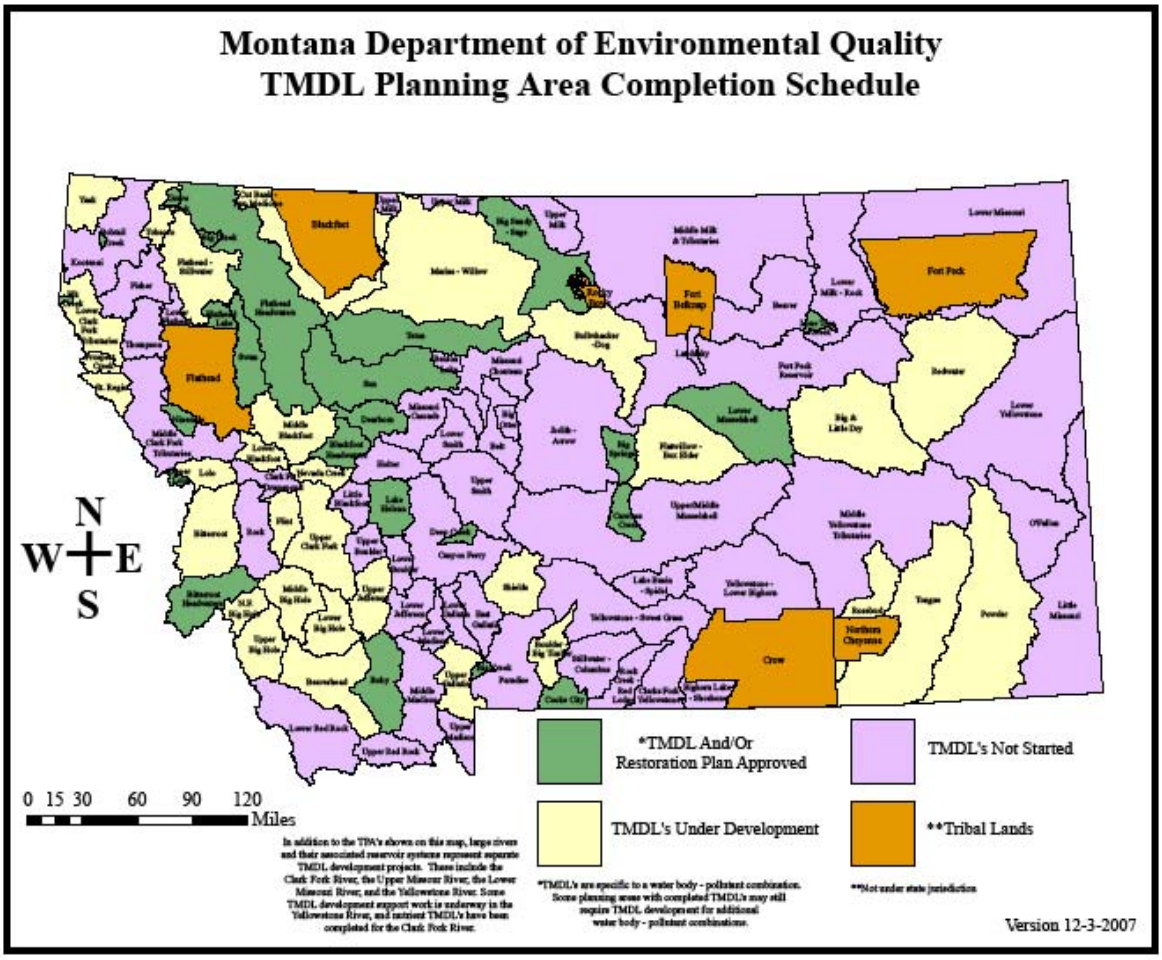
2.2.3 Lakes and Reservoirs Monitoring

In 2007, the WQMS did not conduct the typical lakes monitoring effort in place since 2003 and described in Montana's 2006 Nonpoint Source Annual Report. Instead, DEQ participated in a national joint project between the States and the Environmental Protection Agency (EPA). The "Survey of The Nation's Lakes" project's main objective is to provide regional and national estimates of lake conditions. Forty lakes and

reservoirs were sampled across the state, selected using a probabilistic sampling design approach.

2.3 Watershed Management Section

Montana continues to use a watershed planning approach in addressing Montana's 2012 TMDL completion schedule. The watershed approach is an efficient way for DEQ to complete TMDL documents and can also be useful for local stakeholders because the TMDL documents can be used as a framework for developing more comprehensive watershed restoration plans. Montana's TMDL planning area completion schedule was updated this year in accordance with the Settlement Agreement entered by the parties in Friends of the Wild Swan et al., v. EPA et al, CV97-35-M-DWM. The following figure is the updated completion schedule map for TMDL Planning Areas (TPAs).



Completed TMDLs/Water Quality Plans are anticipated in the following watersheds in 2007: Boulder/Big Timber, Middle Blackfoot, Nevada Creek St. Regis, and Yaak.

TMDL planning areas with ongoing focused planning efforts continuing during 2007 include the following: Shields, Upper Jefferson - tributaries, Lower Blackfoot, Prospect Creek, Upper Big Hole, North Fork Big Hole, Middle Big Hole, Lower Big Hole, Flint Creek, Redwater, Tobacco, Lower Clark Fork Tributaries, Cut Bank/Two Medicine, Upper Clark Fork, Flathead/Stillwater (Subwatersheds Ashley Creek, Whitefish Lake/Swift Creek, Whitefish River, Haskill Creek, Stillwater River), Upper Gallatin, Lower Gallatin, East Gallatin, Beaverhead, Tongue, Powder and Rosebud, Bitterroot, and Lower Lolo.

Streamlining TMDL planning and improving public outreach during TMDL development is an effort that continued in 2007. These efforts included:

- The development of a TMDL project plan outline. A TMDL project plan is now required for each new TMDL Planning Area (TPA) project.
- Contract templates and examples for specific technical situations have been organized and stored in shared electronic folders for staff to utilize.
- TMDL guidance binders and shared electronic folders continue to be organized and updated with specific TMDL examples, guidance, and policies.
- Templates have been developed for overall TMDL document organization as well as for specific TMDL chapters that are consistently similar.
- A documented process for delineating similar stream segments for sediment monitoring site selection and developing sediment load extrapolations to a watershed scale.
- A field guide for sediment TMDL monitoring was prepared this year.
- A general public outreach pamphlet explaining the TMDL program was completed, along with a template for developing public outreach pamphlets specific to a TMDL planning area.
- A staff team approach to TMDL planning has been developed which provides more consistent technical expertise within the TMDL program. This approach

uses each staff's technical strengths into narrowed categories of knowledge. The new team approach is currently being tested in a few TMDL planning areas.
- Sediment and nutrient modeling tools continue to be refined for forested, xeric, and mountain settings with irrigation water uses.

Many of the recent TMDL documents are being used by local stakeholders to prioritize restoration activities. Most of the restoration 319 grants awarded by the Watershed Protection Section during 2007 were focused on specific projects that implemented recommendations provided in approved Water Quality Plans/TMDLs. Also, a significant amount of USDA-Natural Resource Conservation Service EQIP funds were awarded in areas with EPA approved TMDLs and helped fund water quality restoration objectives outlined in the TMDL documents.

2.4 Watershed Protection Section

A more detailed discussion of the Water Quality Planning Bureau's activities related to implementing objectives and actions of the 2001 Nonpoint Source Management Plan is found in "Part 3: Implementation of NPS Objectives" of this report.

A few 2007 highlights for the Section are listed below:

- Montana's Nonpoint Source Management Plan was updated and approved by EPA in July 2007. The 2007 Nonpoint Source Management Plan can be accessed at: http://www.deq.mt.gov/wqinfo/nonpoint/NonpointPlan.asp.
- DEQ awarded and managed $674,590 in new 319 project grants for watershed restoration, groundwater and education and outreach activities that implement Montana's Nonpoint Source Management Plan.
- We provided significant support to local conservation districts and watershed groups through staff time and expertise and extensive participation in the Montana Watershed Coordination Council and its various Work Groups.
- DEQ continued to refine the simplified Education and Outreach "Mini-Grants" program. This program provides a mechanism to fund diverse entities to complete one major task geared towards education and outreach of nonpoint source pollution prevention or water quality. In 2007, 21 projects were funded through the program utilizing ~$20,000 in 319 funds. To asses the various projects, please refer to the 2007 319 Project Grant Final Report submitted to EPA.

2.5 Data Management Section

- Administered Montana's STORET water quality data system, including assistance to outside users with the web-based STORET Interface Module (WebSIM).
- Participated in the EPA Region 8 data management project for transitioning from the current distributed STORET data system to EPA's replacement system, the Water Quality Exchange (WQX).

- Administered the Clean Water Act Information Center which provides public access to Montana's Integrated Water Quality Report (305(b) and 303(d) Lists).
- Completion and use of the bureau's water quality assessment database (WARD) for development of the 2008 Integrated Report (305(b)/303(d)). Began preparation of the text for the 2008 report.
- Provided TMDL modeling support for Bitterroot River nutrients and temperature, Blackfoot River nutrients and temperature, Flathead Lake nutrients and temperature, and the Big Hole River temperature impairments. Ongoing development for "modeling tools" for the development of temperature, nutrients, and sediment TMDLs.
- Preliminary design and development work on an in-house tool to compile, organize, and assist in data analysis for TMDL development - TMDL Data Analyzer.
- Provided Standards Section modeling support for numeric nutrient criteria development for large rivers.
- Continued to develop and refine the Bureau's contracts database.

2.6 Quality Assurance and Quality Control Section

In 2007 the Water Quality Planning Bureau established a Quality Assurance and Quality Section. This reorganization alleviates issues of independent oversight and evaluation that may have been perceived in its previous configuration under the Data Management Section. Below is a summary of highlights from the QA/QC Section from 2007:

- Initiated a Quality Assurance Council for the Department to facilitate the development of quality systems department-wide.
- Provided on-going support and guidance for program staff, contractors, and partners in the development of Quality Assurance Project Plans (QAPPs), Sampling and Analysis Plans (SAPs), and other program process documents.
- Reviewed and approved 25 QAPPs/SAPs for Water Quality Standards, Monitoring, TMDL Development, and Restoration Project Monitoring.
- Revised two major Standard Operating Procedures (SOPs) for use by bureau staff and contractors.
- QA Officer represented the quality system on the Change Control Board for the bureau's assessment information system (WARD).
- Conducted field audits of both bureau staff and contractors, performed a second performance evaluation study of laboratory contractors, and performed data evaluation of all primary use chemistry data collected by or for the bureau.
- Provided staff training on quality control considerations of secondary use data.

2.7 Clean Water Act 319 Grants Section

Most of Montana's Nonpoint Source (NPS) program budget comes from the federal government. Section 319 funds pay 60 percent of project grants and DEQ's NPS program cost. During the 2007 grant cycle, DEQ received proposals totaling $1.7 million

dollars. The DEQ awarded $1.3 million to 23 watershed projects in 4 categories of Watershed Restoration, Groundwater, Information & Education, and Watershed TMDL Planning. The 319 Grants Program Tables, titled ***Fiscal Year 2007 319 Projects Fund Request*** on pages 14 through 16 summarizes the 2007 319 funded projects.

The NPS program strives to have contracts in place by June 1st. In 2006, this goal was not met, but all contracts were in place by June 30th, in time for obligating state contractual funds. DEQ closed out over fifty 319 grants in watershed restoration, groundwater, education & outreach and TMDL planning projects through fiscal year 2007, including the DEQ Projects Grants for 2000, 2001, and 2002 and the Staffing and Support Grant for FY06. Since 1995, Montana has a balance of 22% remaining of unexpended 319 funds awarded, one of the lowest balances in the nation.

The NPS program uses the tools described below to efficiently account for 319 fund expenditures and expedite bill payments.

2.7.1 Fiscal Administrative Tools

Attachment B:
DEQ provides NPS project sponsors with a spreadsheet-billing form called Attachment B. It is part of the contract. The Excel format reduces math errors, shows cumulative totals by project task, and organizes match reporting for contractors. In both the billing and match reporting sheets, a contract-to-date figure is displayed that shows payments made and remaining balances.

Financial Status Reports:
DEQ Financial Services completes Financial Status Reports each year. The reports provide an annual check on the total grant expenditures and match funds reported for each grant. These reports help ensure that funds are effectively tracked.

Grant Reporting and Tracking System (GRTS):
The GRTS system provides Montana with a consistent way to report on the status of nonpoint source grants. DEQ has fully trained administrative staff to input GRTS information provided by project sponsors. Montana requires electronic submission of quarterly and final reports for 319-project grants to facilitate data entry into GRTS. The final GRTS project reports were attached to each project evaluation prior to closing the 319 Projects Grant for 2000, 2001, and 2003. The Water Quality Planning Bureau Contract / Grants Officer is DEQ's NPS GRTS representative. The Contracts/Grants Officer attended the National GRTS meeting in Dallas, Texas, in October and the Region 8 training in Denver, Colorado, during May of 2007.

Contract Administration Training:
DEQ in cooperation with the Big Sky Public Purchasing Association and the Montana Association of Conservation Districts offered a 3-day training titled "Contract Management and Procurement: A Part of the Solution." Over 60 participants attended who either have current 319 contracts or are from state agencies that collaborate on

watershed projects. The featured speakers were Penny Moon, Senior Contracts Officer for the Montana State Procurement Bureau; Diane Tordale, Procurement Services Bureau Chief for the Montana Department of Transportation; and Connie Muggli, Project Manager for the Montana Department of Environmental Quality. Topics included Project Management and the Procurement Life Cycle, Keeping Egos out of the Project, Inter-Agency Contracting, and Fiscal Management.

2.7.2 Performance Audits/Administrative Reviews

The Contracts/Grants Officer conducted two performance audits/administrative reviews of 319 project sponsors in 2007. Initiated in 2004, this activity addresses inconsistencies identified by DEQ project officers, reporting systems, fiscal tracking, and overall project management. DEQ completed the Park Conservation District and Green Mountain Conservation District Audit/Administrative Reviews. Overall, the project sponsors view the audit/reviews favorably, and 10 current grantees have requested audits. The 2007 audits were of two local government grantees. Both audits found grantees not meeting expectations with recommendations for improving computer and personnel back-up along with better documentation and/or establishing "paper trails" on projects. Both audits were requested in conjunction with fiscal audits and found significant concerns when completed together. Currently, DEQ is working with both grantees on resolving the identified problems.

Fiscal Year 2007 319 Projects Fund Request										
	Project Name	**Project Sponsor**	**DEQ Project Officer**	***DEQ Contract #**	**Project Type**	**319 Funds Incremental**	**319 Funds Base**	****Non-Federal Match Funds**	**Other Federal Funds**	**Total Project Cost**
			Watershed Restoration Projects							
2007-01	Haskil Basin Bridge & Restoration	Flathead CD (direct negotiate)	Robert Ray	207039	Restoration	$25,000.00		$16,666.00		$41,666.00
2007-02	Big Coulee Phase II	Sun River Watershed Group	Taylor Greenup	207040	Restoration	$70,350.00		$67,000.00	$15,000.00	$152,350.00
2007-03	Teton Watershed Implementation and Monitoring Project Phase II	Teton River Watershed Group	Taylor Greenup	207041	Restoration	$68,334.00		$95,300.00		$163,634.00
2007-04	Ruby Water Quality Restoration Project Implementation Plan	Ruby Valley Conservation District	Mark Kelley	207042	Restoration	$25,500.00		$17,240.00		$42,740.00
2007-06	Prickly Pear - Lake Helena Project	Lewis & Clark County Water Quality Protection District	Robert Ray	207043	Restoration	$64,296.00		$62,600.00		$126,896.00
2007-08	Ninemile Watershed TMDL Implementation	Trout Unlimited (Missoula)	Robert Ray	207044	Restoration	$35,000.00		$23,333.00		$58,333.00
2007-10	Blackfoot TMDL Implementation & Project Design	Blackfoot Challenge	Robert Ray	207045	Restoration	$64,400.00		$42,934.00	$122,800.00	$230,134.00
2007-11	Upper Lolo TMDL - Top Four Culverts Replacement	Montana Trout	Mark Kelley	207046	Restoration	$30,000.00		$102,465.00		$132,465.00

Fiscal Year 2007 319 Projects Fund Request										
	Project Name	**Project Sponsor**	**DEQ Project Officer**	***DEQ Contract #**	**Project Type**	**319 Funds Incremental**	**319 Funds Base**	****Non-Federal Match Funds**	**Other Federal Funds**	**Total Project Cost**
			Watershed Restoration Projects (continued)							
2007-12	Swan Watershed TMDL Implementation	Swan EcoSystem	Robert Ray	207047	Restoration	$58,340.00		$39,091.00	$11,230.00	$108,661.00
2007-13	Crow Creek Restoration Project	Lower Clark Fork Watershed Group	Robert Ray	207048	Restoration	$49,500.00		$40,000.00	$30,900.00	$120,400.00
2007-14	Grave Creek Restoration Phase III	Kootenai River Network	Robert Ray	207049	Restoration	$30,000.00		$23,333.00		$53,333.00
2007-15	Marias River Watershed - A N Wasteway Rehabilitation	Pondera County Conservation District	Taylor Greenup	207050	Restoration	$69,000.00		$145,500.00		$214,500.00
					SUB-TOTALS	**$589,720.00**		**$675,462.00**	**$179,930.00**	**$1,445,112.00**
			Groundwater Projects							
2007-16	Stream salinity, siltation, and flow impacts from saltcedar infestation in the Sarpy Creek watershed	Treasure County Weed Board	Taylor Greenup	207051	Groundwater	$15,000.00		$71,663.00		$86,663.00
					SUB-TOTALS	**$15,000.00**		**$71,663.00**		**$86,663.00**

			Education & Outreach Projects							
2007-19	Mini Grants FY07	Montana DEQ	Andrew Jakes		E&O	$20,000.00		$13,333.00		$33,333.00
2007-20	Volunteer Water Monitoring Certification Pilot	Montana State University - Watercourse	Andrew Jakes	207052	E&O	$19,890.00		$13,260.00		$33,150.00
2007-21	Electronic Assistance to Watershed Projects	Montana State University - Water Center	Andrew Jakes	207053	E&O	$19,980.00		$13,320.00		$33,300.00
2007-22	Critical Land Project	Flathead Lakers	Andrew Jakes	207054	E&O	$10,000.00		$7,635.00		$17,635.00
					SUB-TOTALS	**$69,870.00**		**$47,548.00**		**$117,418.00**
			TMDL Planning Projects							
	Upper Gallatin TPA	Blue Water Task Force	Pete Schade		TMDL Planning	$100,000.00		$66,666.00		$166,666.00
	Lower / East Gallatin TPA	Greater Gallatin Watershed Council	Pete Schade		TMDL Planning	$100,000.00		$66,666.00		$166,666.00
	Bitterroot TPA	Tri-State Water Quality Council	Banning Starr		TMDL Planning	$75,754.00		$50,502.00		$126,256.00
	Upper Clark Fork TPA	Deer Lodge Valley Conservation District	Jim Bond		TMDL Planning	$150,000.00		$253,926.00		$403,926.00
	Flint Creek TPA	Grantie County Conservation District	Darrin Kron		TMDL Planning	$10,000.00		$6,667.00		$16,667.00
	Montana At Large	Montana DEQ	Dean Yashan		TMDL Planning	$189,656.00		$0.00		$189,656.00
					SUB-TOTALS	**$625,410.00**		**$444,427.00**		**$1,069,837.00**
					GRAND TOTALS:	**$1,300,000.00**	**$0.00**	**$1,239,100.00**	**$179,930.00**	**$2,719,030.00**

PART 3. IMPLEMENTATION OF NPS PLAN OBJECTIVES

The goal of Montana's Nonpoint Source Management Program is to protect and restore water quality from the impacts of nonpoint sources of pollution in order to provide a clean and healthy environment. The newly updated 2007 Montana Nonpoint Source Management Plan contains strategies and actions to achieve NPS management objectives via various mechanisms.

Program Objectives in the updated plan direct water resource-based, land use-based, and education and outreach actions. These actions have been prioritized in the updated plan through the establishment of the five-year action plan provided below.

Resource Specific Five-Year Goals for the State's Nonpoint Source Plan	
Five-Year Goal	**Measurable Outcome**
Complete Water Quality Plans and necessary TMDLs	Number of Water Quality Plans and pollutant/waterbody TMDLs completed
Conduct water quality assessments state-wide	Number of updated water quality assessments for state waters
Review/update Integrated Water Quality Report (305(b)/303(d))	Updated Integrated Reports – 2008, 2010, 2012
Reference site monitoring and assessment	Number of reference sites monitored and assessed
Increase DEQ internal monitoring support for TMDL program	Water quality monitoring data for development of TMDLs
Work with watershed groups to develop watershed restoration plans	Number of watershed groups with watershed restoration plans
Implement restoration projects identified in Water Quality Plans/TMDLs	Number of restoration projects implemented
Monitor 319 restoration activities for effectiveness and pollutant load reductions	Monitoring SAPs, water quality data collection and assessment, estimates of load reductions
Establish a statewide monitoring strategy for monitoring of 319 and other watershed restoration activities for practice effectiveness, load reductions, and in-stream water quality achievements.	A statewide project-monitoring strategy, monitoring SAPs, estimates of load reductions, volunteers conducting watershed monitoring.
Conduct 5-year reviews of completed and implemented TMDLs	Number of 5-year reviews conducted
Collaborate with federal, state, and local agencies to promote conservation tillage (no-till, direct seed),vegetated filter strips, and riparian buffers	Acres of conservation tillage (no till, direct seed), miles of vegetated filter strips, and riparian buffers, participants at conservation tillage workshops
SMZ review for protection of water quality, 2 facets: 1)restored watershed monitoring 2)collaborative research projects (i.e. DNRC & Plum Creek)	Number of reviews completed, number of research projects completed
Overlap priority areas with USFS/DNRC using GIS for coordinating watershed planning process (needs assessment versus existing budgets)	Number of Forests with completed GIS overlay
Work with MSU Extension, DNRC, USFS R8, NRCS, and BLM to develop a targeted list of BMPs for grazing (those that achieve water quality standards)	Agencies participating in implementation of water quality BMPs, number of acres grazed with BMPs that are protective of water quality
Provide reviews and comment on outside agency proposed projects	Number of reviews completed
Develop, maintain and enhance Clean Water Act Information Center public access to data system	System operable and available to public
Administer STORET water quality database system	STORET uploads of DEQ monitoring data every 6 months, all relevant DEQ in-stream monitoring data available in STORET

Resource Specific Five-Year Goals for the State's Nonpoint Source Plan	
Five-Year Goal	**Measurable Outcome**
Administer web-based STORET Interface Module for non-DEQ STORET data submittals	Continued and expanded use of web-SIM by partners external to DEQ, technical assistance to outside users
Initiate monitoring project for "large rivers" (e.g. Missouri, Yellowstone)	Development of monitoring protocols for large rivers

Policy Directed Five-Year Goals for the State's Nonpoint Source Plan	
Five-Year Goal	**Measurable Outcome**
Provide 319 funding to projects that implement NPS and TMDL water quality restoration strategies	Number of projects implemented
Develop and implement DEQ water quality improvement MOUs with agencies including USFS, BLM, DNRC, MDT, and MFWP	Number of MOUs signed, clarified agency roles and responsibilities for addressing NPS pollution
Assist in efforts to develop a cumulative impact assessment strategy for ground-water impacts in high density septic/development areas	Septic system cumulative impacts assessment strategy.
Assist in the review of subdivision storm water rules.	Potential revisions to DEQ 8.
Implement collaborative monitoring processes with federal, state, and local agencies on federal and state land projects, focusing on riparian zone management in achieving water quality standards	Number of SOPs/SAPs developed with DEQ collaboration, number of contracts/leases renewed with riparian zone targets & water quality monitoring
Continue water quality participation in the ITEEM process by collaborating with the IRTWG group	Projects reviewed under ITEEM
Develop numeric nutrient water quality standards and implementation procedures for surface waters	Numeric nutrient water quality standards and implementation procedures for flowing waters
Develop technical basis for a lake classification system based on nutrient status	Scientifically defensible assessment tool for developing lake nutrient standards
Promulgate numeric standards for all pesticides identified in Montana ground and surface waters.	Adoption of numeric standards for all pesticides within 2 years of DEQ notification of detection in state waters
Develop biocriteria for wadeable streams	DEQ acceptance of accurate, defensible biological assessment tools
Develop Standard Operation Procedures (SOP) for monitoring intermittent streams	SOP adopted, number of streams assessed using SOP
Review and recommend revisions or updates to Montana's Ground-Water Plan	DNRC recommended Ground-Water Plan revisions to EQC
Form a MS4 task force to promote and coordinate storm water management activities	Number of meetings, number of communities participating, number of LID demonstration projects

Education and Outreach Five-Year Goals for the State's Nonpoint Source Plan	
Five-Year Goal	**Measurable Outcome**
Provide support and promote the development and coordination of watershed groups through MWCC activities, training workshops, advertising campaigns, etc.	Amount of funding going towards MWCC or advertising activities, number of workshops held, number of participants, number of watershed groups using advertising and promotional resources
Support the certification of volunteer monitors in watershed groups	Number of watershed groups with certified volunteer monitoring programs, number of sampling events, increased quality and reliability of data based on appropriate QA/QC protocols
Improve DEQ website for public access to information on NPS Program	Hits on DEQ website, public feedback of new DEQ website
Develop educational campaign: Urban growth and development issues (i.e. storm water runoff, septic system maintenance, transportation infrastructure, low impact development)	Number of local governments addressing NPS issues, number of communities with NPS education & outreach activities

Education and Outreach Five-Year Goals for the State's Nonpoint Source Plan	
Five-Year Goal	**Measurable Outcome**
Develop educational campaign: Riparian and wetland buffer protection	Number and types of ad campaigns. Delivery of message, numbers and acres of wetlands and miles of riparian areas protected.
Develop educational campaign: Small farm and ranch conservation. Work with NRCS, DNRC, MSU Extension, and Farm Bureau	List of priority focus areas, number of land owners attending workshops, distribution of campaign materials, number of small farm and ranch management plans developed
Work with Statewide organizations (i.e. MEEA, Project WET) to establish and expand water curriculum in schools	New water resource curriculum, number of teachers using curriculum, number of students participating in workshops or trainings, hits on MEEA and Digital Library for Earth System Education (DLESE) websites
Develop and promote BMP training for road maintenance personnel using Local Technical Assistance Program (LTAP) and other venues	Number of trainings held, number of participants trained, transportation funding allocated to BMP installations or activities.

Actions in 2007 focused on supporting local water quality activities in a comprehensive manner by collaborating both internal and externally with all stakeholders.

Resource Specific Examples:
A high priority among the resource specific five-year goals is "Complete Water Quality Plans and necessary TMDLs." In 2007, DEQ completed Water Quality Plans and necessary TMDLs in the following four watersheds: Boulder/Big Timber, Middle Blackfoot and Nevada, St. Regis, and the Yaak.

Another high priority among the resource specific five-year goals is "Conduct water quality assessments state-wide." In 2007, the Monitoring and Assessment Section conducted 195 water assessments to support nutrient and periphyton metrics development for state waters.

A high priority among the resource specific five-year goals is to "Review/update the Integrated Water Quality Report." In 2007, DEQ has made substantial progress in preparing the Montana's 2008 Integrated Report.

Another five-year resource specific goal is "Monitor 319 restoration activities for effectiveness and pollutant load reductions." DEQ requires all 319-funded projects to provide an evaluation of the project. For those projects which involve load reductions, DEQ requires the development of a Sample Analysis Plan (SAP) which is reviewed and approved by DEQ. In 2007, eight watershed restoration projects developed SAPs to ensure appropriate monitoring of restoration projects.

Policy Specific Examples:
Among the five-year resource specific goals is to implement restoration projects identified in Water Quality Plans/TMDLs. This is reinforced in the Policy directed five-year goal: "Provide funding to projects that implement NPS and TMDL water quality restoration strategies." In 2007, 11 of 12 watershed restoration projects were funded through 319 grants in areas with completed TMDLs.

A policy directed five-year goal focuses on interagency collaboration: "Develop and implement DEQ water quality improvement MOUs with agencies including USFS, BLM, DNRC, MDT and MFW&F." In 2007, DEQ and the Forest Service made substantial progress in developing an updated MOU to replace the existing 1987 MOU between the two agencies. DEQ also participates in the "Best Management Practices for Forestry" Work Group and continues to review Forest Service, BLM, MDT, and MFW&P projects for consistency with the Nonpoint Source Management Plan and provide comments when appropriate.

Education & Outreach Specific Examples:
A priority Education and Outreach five-year goal is to "Provide support and promote the development and coordination of watershed groups through MWCC activities, training workshops, advertising campaigns, etc." In 2007, DEQ as well as numerous other state and federal agencies provided support and participated in Montana Watershed Coordination Council activities. In 2007 the full MWCC met on three occasions. Currently MWCC has six working groups: the Steering Committee, the Water Activities Work Group, the Groundwater Work Group, the Monitoring Work Group, the Education and Outreach Work Group, and the Fundraising Work Group. Additionally there is an ad-hoc "Visioning Committee" which is currently working to define the future role and direction of the MWCC. For more information on the MWCC, visit the MWCC website at: http://mwcc.montana.edu/.

A priority five-year goal for Education and Outreach is to "Support the certification of volunteer monitors in watershed groups." In 2007, the Montana State University's Extension Service sponsored and was awarded funding for a 319 project titled "Volunteer Water Monitoring Certification Pilot Project." A thirteen member Volunteer Monitoring Advisory Board has begun to make volunteer monitoring more enjoyable to volunteer groups, while providing more scientifically credible data to DEQ and watershed groups. Additionally, DEQ funded the printing of 88 copies of Montana Watercourse's "Volunteer Water Monitoring Guidebook" through the 319 mini-grants project.

Finally, another five-year Education and Outreach goal is to "Develop educational campaign: Small farm and ranch conservation…" In 2007, DEQ closed a 319 contract with the Montana Farm Bureau which provided water quality and BMP education and outreach to farmers and ranchers with an emphasis on new small ranch owners. DEQ also provided 319 funds to The Rural Landscape Institute to produce and distribute a DVD titled "Path to Eden – Preserving Montana's Resources and Culture for the Future" (www.pathtoeden.org).

The information above is not meant to be a comprehensive list of activities associated with the Nonpoint Source Management Five-Year action plan, but highlights some of the important or notable actions undertaken in 2007.

PART 4. COLLABORATIVE PARTNERSHIPS

The watershed planning approach provides a coordination tool for all stakeholders interested in conserving water resources in Montana, including DEQ. Through the involvement of various interagency councils, watershed groups, conservation districts, agencies, tribes, academia, etc., the watershed approach increases public understanding and involvement in water quality issues. Additionally, citizens who organize on a watershed basis to address issues such as weeds or water quantity issues often add water quality issues to their list of concerns. The following interagency councils and the highlighted watershed group are just a few examples of collaborative opportunities that foster water resource awareness and protection in Montana.

4.1 Interagency Councils

4.1.1 Montana Watershed Coordination Council (MWCC)

The Montana Watershed Coordination Council is a statewide information and support network created to advance local watershed work. The coordination council serves as a forum for and link between local watershed groups that promote enhancing, conserving, and protecting natural resources and sustaining the high quality of life in Montana for present and future generations. It also serves as a statewide network coordinating Montana's natural resource agencies and private organizations in order to share resources, identify and capitalize on opportunities for collaboration, and avoid duplication of efforts.

Four committees of MWCC are chaired by DEQ staff including the Water Activities Work Group, the Education & Outreach Work Group, the Monitoring Work Group, and the Groundwater Work Group. These and the other MWCC work groups offer forums to agencies, academia, conservation district, watershed groups, and non-profit group personnel to discuss issues and offer solutions to water resource needs in Montana. Other agencies that participate in the MWCC include the Department of Natural Resources and Conservation; the Department of Fish, Wildlife & Parks; Montana Bureau of Mines and Geology; the Montana Salinity Control Association; and many other agencies and organizations. Please visit the MWCC website for a more comprehensive list at: http://mwcc.montana.edu/.

In 2007, EPA awarded a grant to Trees, Water & People (TWP) for statewide efforts in Montana, Colorado, and Utah, and two reservations in Wyoming and South Dakota. As part of the grant, MWCC was awarded $50,000 for each of the next two years to offer training opportunities to Montana's watershed groups. The MWCC is using this funding to offer a suite of training opportunities around the state for watershed groups, conservation district groups, etc. This year, MWCC offered a fundraising seminar and a "Watershed Planning for Action" workshop, bringing in national and statewide experts on water quality, water quantity, and fund raising. In the upcoming year, MWCC plans to offer training on topics such as state procurement and grant writing, strategic planning, capacity building, and fundraising. Additional money is also available through the grant

to provide watershed coaching, targeting one or two watershed groups in each state to focus their ability to work on local issues.

MWCC has updated their website, please find information at: http://mwcc.montana.edu/.

4.1.2 Montana Wetlands Council

The Montana Wetlands Council is an active network of diverse interests that works cooperatively to conserve and restore Montana's wetland and riparian ecosystems. Montana's overarching wetland goal is: "No overall net loss of the state's remaining wetland resource base (as of 1989) and an overall increase in the quality and quantity of wetlands in Montana." The Council is in the final stages of completing a year long strategic planning process involving over 500 Montanans. The plan identified eight strategic directions where the Montana Wetland Council will focus leadership, energy, activity, and resources over the next five years. The wetland plan is titled "Priceless Resources: A Strategic Framework for Wetland and Riparian Area Conservation and Restoration in Montana 2008-2021." The Strategic Framework addresses the two inherent aspects of EPA's water resource programs (outreach and education and watershed approach) and all six core elements critical to effective comprehensive wetland programs (regulation, monitoring and assessment, restoration, water quality standards, public-private partnerships, and coordination).

In 2007, DEQ assisted the Wetland Council towards fulfilling its objectives by highlighting various wetland and riparian area conservation and management needs. Areas of assistance include:

- Incorporating wetland and riparian protection in the 2007 Montana NPS Management Plan. The Plan includes background information on these resources and specific strategies for wetland and riparian conservation and protection. Specific strategies are given from both a water resource perspective as well as from various land use-specific perspectives (agriculture, forestry, diffuse urban and suburban, recreation, etc.)
- DEQ personnel were significant in partnering Wetlands Council and MWCC to coordinate meetings and objectives and present the May 2007 Wetland and Watershed Stewardship Award Ceremony as a combined event at the State's Capitol.
- DEQ personnel were active participants in developing the Council's Strategic Framework and expect to be active participants in the new Council structure, participating on Working Groups and the Steering Committee.
- DEQ is working with Montana Natural Heritage Program and EPA on developing the monitoring plans and protocols for REMAP for wetland resources in 2011.

4.1.3 Governor's Riparian Task Force

In 2006 Governor Schweitzer directed the Department of Environmental Quality, the Department of Fish, Wildlife & Parks, and the Department of Natural Resources and Conservation to "develop a standard set of voluntary BMPs for development along

rivers and streams." In 2007, the Governor's Task Force for Riparian Protection developed and widely distributed a brochure titled "Montana's rivers and streams need Room to Roam" – a new home builder's guide to responsible development near rivers, streams, and wetlands. The brochure contains ten BMPs, provides information regarding why riparian setbacks are important, and provides contacts and links for additional information. Additionally the Governor's Task Force created a web site, http://water.montana.edu/setback, developed a PowerPoint presentation on the subject for elected officials and local interest groups, and is currently in the process of hiring a contractor to provide outreach to communities currently experiencing riparian development pressure.

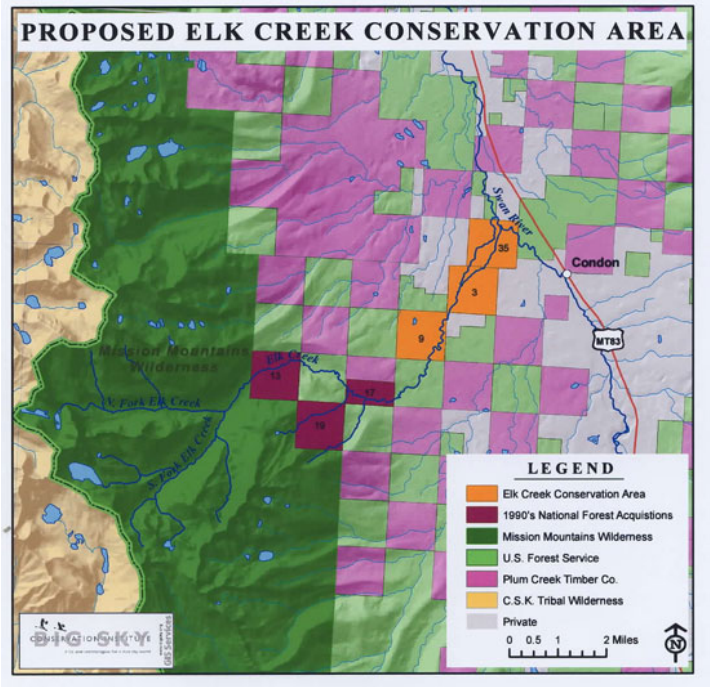
4.2 Success Story: Swan Lake & Swan Ecosystem Center

The Swan Lake watershed in northwestern Montana contains two 303(d) Listed impaired waterbodies (Goat and Jim Creeks) and one threatened waterbody (Swan Lake). TMDLs and a Water Quality Protection Plan were completed in 2004 to address identified problems. The Swan Ecosystem Center has been leading implementation efforts based on the recommendations developed in the Water Quality Protection Plan since then.

The Swan Ecosystem Center coordinates a Technical Advisory Group and the Swan River Watershed Group (Swan Valley Coordinating Committee). The Swan Ecosystem Center obtained 319 funding in 2006 and 2007 to support their water quality related activities. These activities include group coordination, road-related sediment and nutrient load reductions, project effectiveness and watershed water quality monitoring and assessment, and education and outreach on water quality issues.

In 2007 the Swan Ecosystem Center's road drainage improvements and sediment and nutrient reduction efforts focused on the Cold Creek drainage, in four Sections of Township 21 North, Range 17 and 18 West, and consisted of road drain dips, roll dips, and spot gravel applications. Additionally in 2007, the Swan Ecosystem Center coordinated the Technical Advisory Committee's efforts to develop a TMDL Action Plan and developed an "Elk Creek Road Restoration Project" which will be implemented in 2008. This project addresses road drainage and sediment/nutrient load reductions along nine miles of Forest Road 9591 using drain dips, culvert replacements, and a sediment trap.

In addition to site specific work, the group works on large scale conservation initiatives. Note in the figure below, the proposed conservation area includes major portions of Elk Creek, offering major positive effects for water quality in the valley.



The Swan River Valley and Swan Lake is a popular summer recreation area and is becoming increasingly developed for vacation homes. New homes are being built close to water, and new residents often "improve" their sites by building ponds, draining wetlands, and removing large vegetation from stream banks. The Swan Ecosystem Center is working with the watershed group to implement the Water Quality Protection Plan which recommends education and outreach efforts to minimize the negative water quality impacts associated with increased development in the watershed. A newly developed website for the area is at: http://www.swanecosystemcenter.com/.

PART 5. REFERENCES

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